Effects of Podcast Tours on Tourist Experiences in a National Park

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ABSTRACT

This study examines the influence of podcast tours on tourist experiences. Based on theoretical accounts that human voices convey rich social information, this study proposes that podcast tours increase perceived social presence and mindfulness that lead to enhanced tourist experiences and environmental stewardship. A field experiment was conducted at a national park using MP3 players containing podcast tours based on four experimental conditions: 2 information source compositions (single vs. multiple narrator voices) x 2 narrating styles (formal vs. conversational). The results support that even if communicated through audio-only media, the human voice creates a positive social context for meaningful interaction which influences tourist experiences and stewardship. Mindfulness was also found to be an important construct affecting the quality of experiences. The findings support the usefulness of podcast tours as interpretative media.

Keywords: podcast tours; social presence; mindfulness; tourist experiences; environmental stewardship; interpretation; information technology

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1. Introduction

Ever since park ranger-guided interpretive tours of Yosemite and Yellowstone were introduced in the 1860s, park rangers have played a significant role in offering a variety of park interpretation services in the United States (National Park Service, 2009). Park ranger-guided programs are considered to be one of the most important interpretative services to provide information as well as to educate visitors about the natural, historical, or cultural features of a park (National Park Service, 2003). Park rangers as tour guides also play a social role in addition to their instrumental, informational and communicative role by easing social tension and providing support (Randall & Rollins, 2005). Thus, park rangers as tour guides can significantly influence the experience of tourists in national parks. Their influence has also been linked to increasing stewardship and pro-environmental behaviors (Weiler & Ham, 2001). However, due to budget cuts, ranger-guided programs are significantly underfunded and understaffed (Randall & Rollins, 2005), making it necessary to search for more cost-effective alternatives that can still provide visitors with rich experiences.

Information technologies play a role in replacing human interpretation services by facilitating the way tourists interact and connect with travel destinations (Benckendorff, Moscardo, & Murphy, 2006; Stamboulis & Skyannis, 2003; O'Dell, 2007). Especially mobile technologies increasingly mediate tourism experiences (Brown & Chalmers, 2003; Gretzel, 2010). In particular, podcasting technologies available on portable devices have emerged as a new medium to facilitate interactions between visitors and destinations and

have a potential to influence tourist experiences. Derived from the terms “iPod” and “broadcasting,” podcasting is a method for distributing downloadable multimedia files such as audio and video files through subscriptions to specific software (e.g., RSS) (Lee & Gretzel, 2006). Podcasting technologies provide on-demand audio and video files for PCs or portable media devices. Podcast tours have advantages to tourists and tourism organizations. Tourist organizations can develop countless hours of audio information in a cost effective way. Tourists can download personalized information from Web sites before their trip and carry the audio devices containing the information to their travel sites. The podcast audience is growing at an impressive rate. According to the Future of Privacy Forum (2010), approximately 48.2% of Internet users between the ages of 18 and 65 downloaded music or podcasts to an iPod or MPs player in December, 2009. According to the Travel 2.0 Consumer Technology Survey (PhoCusWright, 2008), 20% of U.S. mobile device users want to watch and listen to podcasts about travel destinations (eMarketer, 2009).

The National Park Service (NPS) strives to provide enjoyable, educational, and inspirational experiences to park visitors, while conserving the natural, cultural, and historical resources of the national park system for current and future generations (Department of the Interior, 2006). Recently, the NPS has started offering interpretive podcasts about historical, nature-related or environmental topics such as wildlife and issues related to climate change and fire management (National Park Service, 2008). A total of 18 national parks in the U.S. currently offer podcasts, providing hundreds of audio and video programs on park Web sites or iTunes (National Park Service, 2008). Although the podcast tour has a potential to play a role in providing interpretative

services in national parks, little academic research has been undertaken to understand how tourists perceive podcast tours and how these tours influence their experiences.

The purpose of this study is to examine the effect of voices included in podcast tours on the experience of tourists in national parks. In particular, this study explores how human voice enhances perceptions of social presence and mindfulness that lead to favorable visitor experiences and stewardship toward a national park. This study proposes that as an interpretive service, podcast tours can possibly enhance tourist experiences at national parks in a cost effective way and evoke the desire to personally take an interest in and care about national parks.

2. Theoretical Foundations and Hypotheses

2.1. Soundscape and human voice

Tourism scholars have emphasized the importance of tourists' senses and embodied activities to understand tourist experiences (Franklin, 2003). In particular, soundscapes are one of the most prominent elements through which tourists experience travel destinations (Franklin, 2003). Soundscape in a tourism context involves a variety of sounds such as the human voice, sounds from nature (e.g., birds, seashores, winds), media sounds (e.g., video, audio technologies), foreign languages spoken by residents (e.g., French, Chinese), even everyday noise (e.g., traffic, construction sounds). It is assumed that tourists create their own experiences by selectively listening to specific sounds and combining those sounds into a meaningful experience of a destination. Human voices play a particular role in the touristic soundscape. Human voice in acoustic communication is considered a critical component that influences listeners' attention

(Potter, 2000). It is obvious that tourists are exposed to an endless variation of verbal production such as narration and speech in their trips. Since the human voice can carry socially rich information other than the literal meaning of the denotative content through social cues (Pittman, 1994; Nass & Brave, 2005), the human voice has great potential to enhance tourist experiences. Social responses to speech may be extended from human speech to human voices transmitted through information technologies. A number of studies have shown that people recognize voice from computers and information technologies, using the same rules and heuristics that they apply to non-mediated human speech (Reeves & Nass, 1996; Nass & Brave, 2005).

Although park interpretation services have provided audio tours that contain human voices for a long time, little is known about how and why the human voice, as one of the social characteristics of audio tours, influences tourist experiences. This research proposes that the social cues conveyed by human voices on podcast tours increase perceived social presence and mindfulness, which influence tourist experiences and, in turn, environmental stewardship in national parks.

2.2. Social Presence

The concept of social presence is used to assess how much socially rich interpersonal interaction a particular medium can convey (Fulk, Schmitz, & Power, 1987; Walther, 1992; Short, Williams & Christie, 1976). Social presence is defined as the psychological state in which the virtuality of the social experience is not noticed (Lee, 2002). In this sense, social presence occurs when technology users do not notice the mediated nature of experiencing other humans and/or the artificiality of social actors (Lee,

2002; Lee & Nass, 2004). Media equation theory (Reeves & Nass, 1996) supports the concept of social presence by stating that “an individual’s interactions with information technologies are fundamentally social and natural, just like interaction in real life” (p. 5). Technological advances have increasingly enabled technologies to convey social presence, allowing them to mimic both the appearance and behavior of human beings by integrating voice, text, graphics and videos (Brent & Thompson, 1999). With mobile technologies, human entities rely mainly on sound and voice because of the mobility of devices and the constraint of small screen sizes. This study assumes that human voice, a critical component of touristic soundcapes, can enhance perceived social presence on the basis of the concept that human voice conveys a very rich set of socially relevant information (Pittman, 1994) and listeners constantly and automatically extract relevant social information about a speaker through his/her voice (Nass & Gong, 2000; Truax, 2001). Human voice, accordingly, creates the illusion of interaction with a social entity (Lombard & Ditton, 1997), which can be important when actual social interactions with park rangers are limited.

2.3. Mindfulness

Mindfulness is defined as an open and receptive attention to and awareness of present experiences (Brown & Ryan, 2003). Awareness is referred to as “the background radar of consciousness, continually monitoring the inner and outer environment and attention as a process of focusing conscious awareness, providing heightened sensitivity to a limited range of experiences” (Brown & Ryan, 2003, p. 822). Therefore, mindfulness is the sum of ongoing psychological experience processes and the quality of

consciousness itself involving self-regulation of attention and present-focus (Brown & Ryan, 2003; Brown, Ryan, & Creswell, 2007). A key characteristic of mindfulness is the sustained consciousness of ongoing events and experiences (Brown et al., 2007). This means that mindful individuals do not lose control of what they experience but rather have a heightened ability to recognize what happens in the present moment. Therefore, those who are mindful have a clear awareness of their inner and outer worlds, including thoughts, emotions, sensations, actions, and surroundings (Brown et al., 2007).

In accordance with this definition, mindfulness does not involve comparison, categorization, evaluation or introspection based on memory. In other words, mindfulness is not a type of cognitive or mental processing. Instead, mindfulness can be considered as a psychological state that can increase the readiness for cognitive processing, as attention and awareness are important antecedents of the conscious processing of information. Nevertheless, some scholars describe mindfulness as a form of cognitive processing. For example, Langer and her colleagues (Langer, 1989, 1992; Bodner & Langer, 2001; Langer & Moldoveanu, 2000) conceptualized the dual concept of mindfulness and mindlessness. According to Langer (1992), mindfulness is “a state of conscious awareness in which the individual is implicitly aware of the context and content of information characterized by a state of openness to novelty in which the individual actively constructs categories and distinctions” (p.89). In contrast, mindlessness has been defined as “a state of mind characterized by an overreliance on categories and distinctions drawn in the past aspects of the situation” (Lang, 2000, p.89). As such, the dual concept focuses on an active cognitive operation that explains how people process perceptual inputs from the external environment to create new categories and seek

multiple perspectives (Chatzisarantis & Hagger, 2007; Brown & Ryan, 2003; Brown, et al., 2007). However, it has been argued that there is a need to clearly distinguish the concept of mindfulness as an open and receptive attention to and awareness of current experience from cognitive processing models that require analytic modes of processing (Teasdale, 1999). This study adopts the notion of mindfulness as state of openness rather than as a mode of processing and therefore uses a conceptualization that is different from Langer's definition of mindfulness.

Since the 1980's, Moscardo and other researchers have empirically examined mindfulness in different tourism communication and interpretation effectiveness contexts (Moscardo, 1999; Frauman & Norman, 2003, 2004; Winkle & Backman, 2006; Benckendorff, et al., 2006). This study attempts to identify mindfulness as an important mediator between interpretation services provided through information technologies and tourist experiences that enhance stewardship.

2.4. Tourist Experience

For the purpose of this study, tourist experience is defined as a constant flow of thoughts and feelings during moments of consciousness (Carlson, 1997) which occur through highly complex psychological, sociological, and cognitive interaction processes. In accordance with this definition, this study assumes that tourist experiences are socially and culturally created through a variety of sensescapes such as soundscapes, smellscapes, and tastescapes and visual landscapes or townscapes (Urry, 1990). In the emerging experience economy (Pine & Gilmore, 1998), tourists have shown their desire to actively engage in creating experiences instead of passively seeing, watching, and/or learning

about exhibits or artifacts. Therefore, the traditional conceptualization of the tourist experience is no longer effective in a dynamic landscape of travel and tourism (Gretzel & Jamal, 2007).

Three facets of tourist experiences (learning, enjoyment, and escape) are consistently identified in the tourism literature as important experiential dimensions. First, learning seems to be an important component, especially in the context of national parks. A learning experience is defined as an experience by which tourists obtain information about new things and acquire novel skills (Pearce, 2005; Ryan, 1997). It is also identified by Pine and Gilmore (1998) as an important experiential dimension and has been included as a dimension by Oh, Fiore and Jeoung (2007) in their effort to measure tourism experiences. Second, enjoyment experience refers to the extent to which the tourist experience is perceived to be enjoyable apart from the utilitarian value of the experience (Davis, Baggozzi, & Warshaw, 1992). Third, escape is defined as an experience by which tourists feel immersed in the environment at the destination and, thus, apart from the constraints of ordinary life (Pearce, 2005; McCannell, 1976; Urry, 1990). Both enjoyment and escape are dimensions also included in the experience measure proposed by Oh et al. (2007).

2.5. Environmental Stewardship

Contemporary definitions of stewardship usually refer to aspects such as “a protective restraint, a taking care of resources through nurturing and thrifty management of their use” (Leopold, 1979, p. 228), while environmental stewardship is typically defined as taking responsibility for the earth (Lita, 1999). Environmental stewardship

"involves respect, preservation, and actions toward the betterment of our natural resources regardless of economic gain" (Hancock, 2007, p. 36). Environmental stewardship aims at utilizing natural resources to the benefit of the current generation while preserving those resources necessary to meet the needs of future generations (McCuddy & Pirie, 2007).

One of the fundamental management goals of the NPS is to preserve the natural resources of the national park system for current and future generations (Department of the Interior, 2006). The NPS has worked with its partners in the tourism industry and cooperated with a variety of associations, communities, educational institutions, and transportation services to provide opportunities for enjoyment, education, and inspiration to park visitors (Department of the Interior, 2006), with the ultimate objective to turn visitors into active supporters of national parks. To instill favorable attitudes and behaviors towards national parks in tourists, the NPS has used a variety of interpretative services and educational programs. Interpretation services facilitate the cultivation of knowledge that changes tourists' behaviors, values, attitudes, and/or beliefs. Interpretation is used to stimulate empathy towards conservation of the environment (Stewart, Hayward, & Devlin, 1998) and hence enhances environmental stewardship (Mitchell & Brown, 1998). Therefore, the NPS strives to provide various interpretation services to "cultivate a sense of custodianship towards the environment on the part of communities and individuals who make direct use of natural resources" (Phillips, 1998, pp.v).

Studies of environmental stewardship categorize environmental stewardship into two dimensions: attitudinal and behavioral stewardship (Hancock, 2007; Stern, Powell, &

Ardoin, 2008). Attitudes refer to an association with and evaluation of an object, incorporating beliefs, feelings, and inclinations to the object (Leiserowitz, Kates, & Parris, 2006). Behaviors are usually difficult to observe and, thus, behavioral intention is typically used as a proxy to measure the behavioral dimension of a concept (Ajzen, 1991). Behavioral intention to engage in stewardship refers to individuals' willingness to participate in a variety of stewardship activities (Hancock, 2007). A number of studies found that an individual's attitudinal stewardship influences behavioral intentions to engage in stewardship (Hancock, 2007; Stern et al., 2008).

Given the increasing reliance of the NPS on volunteers (Gildart, 2005), fostering stewardship in tourists visiting national parks is a priority for the NPS. The study presented in this paper assumes that stewardship toward a national park depends on the experience tourists have at the parks, and that interpretational services such as podcasts play a critical role in enhancing these experiences.

2.6. Hypotheses

2.6.1. The effect of social characteristics of voices included in podcast tours

Information source composition (single vs. multiple information sources): This study proposes that the social characteristics of voices consumed through podcast tours positively influence tourist experiences. The source of messages (information source composition) is one of the most important social variables investigated in human communication research (DeBono & Harnish, 1988; Sundar & Nass, 2000). Along with communicator characteristics such as credibility, attractiveness and similarity (Wilson & Sherrell, 1993), information source composition (single or multiple individuals) is one of

the most important factors that influence acceptance of a message (Sunder & Nass, 2000). Previous studies (Harkins & Petty, 1981a, 1981b, 1983) showed that multiple sources had a greater impact on persuasion than a single source and identified this phenomenon as multiple source effect. Lee (2002) showed that people responded more socially to multiple voices from computers than a single voice. As discussed, voice conveys socially rich information and listeners automatically extract social information from information narrated by a human voice (Pittman, 1994; Nass & Brave, 2005). Accordingly, the more consistent with social and physical rules technologies are, the stronger the bias toward social relationships with the technologies. Therefore, humans appear to extract the social aspects of speech more from multiple voices than single voice narration (Nass & Brave, 2005) and hence they perceive greater social presence when interacting with information technologies that include multiple voices.

Orienting response theory explains why people respond to multiple human voices by paying attention to the park environment or interpretation information. Orienting response is an immediate response to a change in environment. Accordingly, people tend to respond to and pay attention to sudden change. Modern experimental studies of attention in media psychology regard orienting response as “an attention reaction evoked by certain categories of stimuli (e.g., moving, meaningful, or surprising, sound, etc.), for which the resulting response is composed of an organized set of behavioral and physiological responses” (Lang, 2000, p. 55). Previous studies showed that structural audio features (sound effect, voice changes, gender voice changes, funny voices, etc.) elicited an orienting response in listeners and caused the listeners to pay greater attention to the program possibly because of an orienting response that directs attention to novel or

strange stimuli in the viewer's environment (Watt &Welch, 1983; Potter, Lang, & Bolls, 1998). This study assumes that voice changes, which occur in multiple voice settings, can elicit an orienting response in listeners and can cause the listeners to pay attention to contents or their environment. Based on the above theoretical discussions, the following hypotheses are proposed:

Hypothesis 1a: Multiple voices included in a podcast tour will lead to greater perceived social presence than a single voice.

Hypothesis 1b: Multiple voices included in a podcast tour will lead to greater mindfulness than single voices.

Narration Style: Research in psychology has discovered that people react differently to situations that involve personal reference in narration and speech as well as text messages (Moreno & Mayer, 2000). In this study, narration style is defined as the level of personalization in the narration based on a study by Mayer, Fennell, Farmer, and Campbell (2004). To test the influence of the narration style of podcast tours, narration style is categorized into two different styles: formal and conversational. Formal refers to the non-personalized narration while conversational describes personalized narration (Mayer et al., 2004). Personalization is achieved through self-referencing, which means that the narration contains first person pronouns and/or comments directed at the listeners while the nonpersonalized narration is based on a script containing third person pronouns and no comments directed at the listener (Mayer et al., 2004).

Self-references using "you," "yours", or comments targeted at a listener represent a social cue in communication; accordingly, it is expected that conversational narration leads to greater perceptions of social presence. Such a self-referencing effect (SRE) has

been studied quite extensively in the persuasion literature (Rogers, Kuiper, & Kirker, 1977). People automatically and socially respond to content containing self-referencing phrases (Reeves & Nass, 1996)**.** On the other hand, SRE occurs because self-referencing increases personal relevance to subjects and increased personal relevance motivates people to engage in greater elaboration of issue-relevant arguments (Burnkrant & Unnava, 1989). When people experience information containing personal references, they tend to process this information by relating it to their self-structure and develop an automatic attention response to this self-relevant information (Rogers, et al., 1977; Bargh, 1982; Moran, 2006). Therefore, conversational narration containing self-referencing information is also likely to lead to enhanced mindfulness. This study proposes that tourists visiting national parks are more likely to perceive social presence and mindfulness when they listen to conversational narration containing extensive self-referencing than when they listen to podcasts with formal narration.

Hypothesis 2a: Conversational narration included in a podcast tour will lead to greater perceived social presence than formal narration.

Hypothesis 2b: Conversational narration included in a podcast tour will lead to greater mindfulness than formal narration of a podcast tour.

2.6.2. Effect of Social Presence on Tourist Experiences

A number of empirical studies have shown the consequences of perceptions of social presence (Lee, 2002). First, previous studies have highlighted that the perception of social presence influences learning (Skalski, 2004). Social presence leads to message involvement with systematic information processing and increases the motivation to process information (Skalski, 2004). Consequently, social presence influences learning

(Lombard & Ditton, 1997). One the other hand, social interaction is an important feature of systems that convey enjoyable experiences (Monk, Hassenzahl, Blythe, & Reed, 2002). Enjoyment is a subjective experience that can be understood in relation to theories of social support (Brandtzeg, Folstad, & Heim, 2003). According to Brandtzeg et al. (2003), co-activity (doing things together) and social cohesion (being part of or attracted to a community) increase feelings of reward, pleasantness, and enjoyment. Social facilitation theory (Zajonc, 1965) further supports this argument, maintaining that social contact is rewarding and leads to emotional happiness. Therefore, this study proposes that perceived social presence when visiting a national park leads to heightened enjoyment of the experience. Finally, social presence appears to lead to escape by increasing immersion. Lombard and Ditton (1997, p. 9) define presence as "the perceptual illusion of non-mediation". Accordingly, the term perceptual state is a phenomenon that involves "continuous responses of the human sensory, cognitive, and affective processing systems to objects and entities in a person's environment" (Lombard & Ditton, 2002, p. 1). According to this definition, greater perceived social presence is synonymous with greater immersion. Immersion is the degree to which a virtual environment submerges the perceptual system of the user; and psychological immersion occurs when users feel involved absorbed, engaged, and engrossed (Lombard & Ditton, 2002). In this sense, it appears that immersion should facilitate escape from ordinary life as social presence increases in the current environment. Park visitors seem to be able to immerse, involve, and engage themselves in audio tours. Thus, based on conceptualization and related empirical studies, this study hypothesizes the following:

Hypothesis 3a: Greater perceived social presence leads to a greater learning experience.

Hypothesis 3b: Greater perceived social presence leads to a greater enjoyment experience.

Hypothesis 3c: Greater perceived social presence leads to a greater escape experience.

2.6.3. Effect of Mindfulness on Social Presence

Research regarding the effects of mindfulness on social relationships is a newly emerging area of investigation (Brown et al., 2007). Goleman (2006) argues that, characterized by receptive attentiveness, mindfulness may facilitate a willingness to take interest in the thoughts and emotions of other people, and may also increase the ability to attend to the content of communication with other people (as cited in Brown & Ryan, 2003). Therefore, mindfulness may promote interaction styles that enhance overall relationship quality, making people attentive to and aware of current interactions (Brown et al., 2007). It is likely that enhanced mindfulness influences attention to and awareness of current relationships and connectedness and thus impacts the communication and social exchange quality. Therefore, this study hypothesizes the following:

Hypothesis 4: Mindfulness has a positive influence on perceptions of social presence.

2.6.4. Effect of Mindfulness on Tourist Experience

Empirical studies of mindfulness have found that mindfulness has a positive effect on learning, creative thinking and cognitive commitment (Brown, et al., 2007). Mindfulness refers to a high level of attention to and awareness of a particular current environment. Therefore, mindful individuals invoke multiple perspectives and recognize a particular environment or event (Langer, 1992). Based on this conceptual argument,

this study suggests that mindful tourists in national parks engage in active and fluid information processing, which increases the sensitivity to context, allowing for multiple perspectives and abilities to draw novel distinctions (Burgoon, Berger, & Waldron, 2000). Mindfulness is also an important element to make people disengage from thoughts, habits, and unhealthy behavioral patterns and hence plays a key role in facilitating informed and self-endorsed behavioral regulation which has been associated with enhancement of well-being and enjoyment (Ryan & Deci, 2000). As a result, mindfulness enables people to identify their needs and wants and filter out unwanted responses. It can make individuals choose actions that are consistent with needs, values, interest, and concerns by filtering out unnecessary background information, which leads to enjoyable moments (Brown & Ryan, 2003; Csikszentmihalyi, 1990; Deci & Ryan, 1985). This study also proposes that mindfulness can enhance the escape experiences of tourists visiting national parks. Hayes, Strosahl, and Wilson (1999) pointed out that we live in the world as we view it, construct it, or interpret it, that is, we tend to foster cognitive operations on what we encounter. Unlike this cognitive processing, the mindful mode of processing is non-conceptual (Brown et al., 2007). This means, “mindfulness does not compare, categorize, evaluate, introspect, reflect upon events or experiences based on previously constructed memory structure” (Brown & Ryan, 2003, p. 213). Instead of conceptualizing the world in structured experiences, mindful people allow inputs from current experiences to enter awareness by simply noticing what is taking place. These theoretical and conceptual reviews suggest that mindful tourists can focus on current experiences without accessing their memories of previous experiences, which opens up greater possibilities for escape. Based on the theoretical arguments, the following hypotheses are put forward:

Hypothesis 5a: Greater mindfulness leads to a greater learning experience.

Hypothesis 5b: Greater mindfulness leads to a greater enjoyment experience.

Hypothesis 5c: Greater mindfulness leads to a greater escape experience.

2.6.5. Effect of Tourist Experience on Stewardship Toward National Parks

Several scholars have studied the types of programs and processes that influence stewardship in a national park (Williams & Magsumbol, 2007; Stern, et al., 2008; Davis, 2005). They all investigated the effect of environmental educational programs and activities on changing attitudes toward stewardship. Based on these empirical studies, this study proposes podcast tours can influence learning experiences which, in turn, affect attitudinal stewardship for national parks. On the other hand, consumption experiences can be intrinsically satisfying when the experience provides pleasure to the senses, fun, feelings, and fantasies (Hirschman & Holbrook, 1982). In this study, enjoyment and escape are considered as hedonic (experiential) values derived from visitation experiences at a national park. Several studies have shown that the hedonic value derived from an experience influences attitudes (Daboholkar & Bagozzi, 2002; Davis, et al., 1992; Davis, Bagozzi, & Warshaw, 1989). It is likely that the more tourists enjoy the park and feel that they can escape from normal life, the more connected they feel to the park or respect and appreciate its resources. Based on the literature, this study proposes that enhanced learning, enjoyment, and escape experiences will increase attitudinal stewardship.

Hypothesis 6a: Greater learning experience leads to greater attitudinal stewardship

Hypothesis 6b: Greater enjoyment experience leads to greater attitudinal stewardship.

Hypothesis 6c: Greater escaping experience leads to greater attitudinal stewardship.

Attitudinal research has suggested that attitudes have a strong, direct, and positive effect on behavioral intentions (Bobbitt & Dabholkar, 2001; Dabholkar & Bagozzi, 2002). The link between attitudes and intentions is fundamental in attitudinal research and has been supported in a wide variety of domains (Sheppard, Hartwick, & Warshaw, 1988; Shimp & Kanvas, 1984; Dabholkar & Bagozzi, 2002). Tourism literature has shown that individuals who have attitudinal stewardship have concerns about their area and try to spend their time and effort engaging in various activities to protect and preserve the natural environment they appreciate and care for (Donald, 1997; Lerner 1986). Based on the conceptualization and existing studies, the following hypothesis is proposed:

Hypothesis 7: Greater attitudinal stewardship leads to greater intentions to engage in stewardship behaviors.

2.7. Development of an Integrated Research Model

Based on the discussion above, an integrated research model was derived, illustrating the hypothesized influences of narration style and source composition in podcast tours on tourist experiences as relationships that are mediated by perceptions of social presence and mindfulness (Figure 1). It further conceptualizes the influences of enhanced tourist experiences on attitudinal stewardship and ultimately behavioral stewardship.

Insert Figure 1 about here

3. Research Design and Methodology

3.1. Sample and Research Location

A field experiment was undertaken at Padre Island National Seashore (PAIS) in Corpus Christi, TX, a nature-based national park. This park was selected for this study because it was observed that this park offers limited interpretation services and as a nature-based park, it has limited information sources around the seashore and other sightseeing locations where tourists primarily go. Even though there are interpretive programs provided by park rangers, the programs are offered only during park business hours. Therefore, this information-limited setting is especially appropriate for assessing the effectiveness of podcast tours, as exposure to other interpretive services can be easily controlled. The field experiment for this study was conducted at the visitor center of PAIS in the summer of 2008. A total of 243 park visitors participated in the experiment and filled out the questionnaire, however, 22 questionnaires were excluded due to incomplete information. Thus, a total of 221 were included in the analysis.

3.2. Profile of Participants

Table 1 provides information about the general profile of participants. Over half of the respondents were female (56.4%); one fourth of respondents were between 35 and 44 (25.5%) years of age. A considerable portion of respondents had a graduate degree (25.5%), or a four year university education (23.3%). Approximately 58.4% of the respondents visited PAIS for the first time and 28.5% had visited twice. Over 40% of respondents made a decision to visit the PAIS earlier the same day or the day before while about 15.9% planned to visit one to five months earlier. Over 51% of respondents

had no children in their travel party. 12.7% of respondents with children had children under five years old. Over 22% of respondents answered that they would stay overnight and a majority of respondents (45%) responded that they would stay 2 or less hours. The majority (94.3%) of participants listened to four or more of the six segments of the podcast tour provided to them. Approximately 58% of participants owned an MP3 player and nearly 62% of them had experience with listening to podcasts. Further, most participants were very satisfied with the podcast tour (average satisfaction rating = 4.41 on a 5point scale).

Insert Table 1 about here

3.3. Experimental Conditions and Procedures

The field experiment involved four experimental conditions: 2 narration source compositions (single narrator voice vs. multiple narrator voices) x 2 narrating styles (conversational style vs. formal style). The single voice narration was comprised of a single female voice. Based on the result of Asch's conformity experiment study of the 1950's, the multiple voice narration was recorded by three different female narrators, including the narrator used for the single voice condition. Asch's conformity experiment identified that one person has virtually no influence and two people have only a small influence, but with three or more people the group influence is relatively stable (Asch, 1951). The conversational narration condition was designed by including high self-referencing phrases such as "you" or "yours" as well as comments relating to the listener. This study chose female voices because they are perceived as more sensitive, emotionally

responsive, people-oriented, understanding, cooperative, and kind (Nass, Moon, & Green, 1997); hence female voices are more likely to create social presence and mindfulness.

Six topics were selected for the audio tour content: introduction to PAIS, nature and ecosystem, sea turtle restoration project, bird migration and bird watch, oil and natural gas production, and seashore trash. The topics were developed based on information from PAIS brochures, interviews with the chief of interpretation and staff, and the PAIS Web site. The length of each podcast ranged from 2 minutes and 20 seconds to 3 minutes 29 seconds; the number of words for each topic ranged from 345 to 494 words.

MP3 players and questionnaires were distributed and collected in the PAIS Malaquite Visitor Center. Vistors who agreed to participate in the research were randomly assigned an MP3 player containing one of four different podcast tours. Participants were given a short instruction on how to use MP3 players. They were also instructed to freely explore the podcasts while walking around and to listen to as many podcasts as they wanted. Before taking the audio tour, participants filled out a pre-questionnaire. The post-questionnaire was answered after finishing the tour and returning the MP3 player. Once they finished filling out the post-questionnaire, participants were debriefed and thanked.

3.4. Measures

Based on reviews of diverse literature, dependent measures were developed for measuring social presence, mindfulness, tourist experiences (learning, enjoyment, escape), and stewardship (attitudinal stewardship, behavioral intention to engage in stewardship).

All the items of the constructs were adapted to the study context (Table 2). Social presence was measured by six items based on the studies of Lee (2002) and Gefen and Straub (2003), using a scale ranging from 1 (Not at all) to 5 (A lot). Fourteen questions relating to mindfulness were selected from the scales developed by several scholars (Brown & Ryan, 2003: Feldman, Heyes, Kumar, Green, & Laurenceau, 2007; Baer, Smith, & Allen, 2004). Mindfulness as conceptualized for this study consisted of four subdimensions: attention, present-focus, awareness and nonjudgment. These questions were measured on a 5-point Likert Scale (1=strongly disagree to 5=strongly agree). Based on previous studies (Pearce, 2005; Kotler & Kotler, 2000; Goulding, 2000), tourist experience was measured by ten questions for three sub-dimensions: four items for learning experience, three items for escape experience, and three items for enjoyment experience, using a 5-point Likert Scale (1=strongly disagree to 5=strongly agree). Three items relating to attitudinal stewardship and five relating to behavioral intentions to engage in stewardship were developed based on the studies of Hancock (2007) and Stern et al. (2008) and measured with a 5-point Likert Scale (1=strongly disagree to 5=strongly agree).

Insert Table 2 about here

3.5. Data Analysis

Structural equation modeling (SEM) was conducted to test the hypothesized research model using LISREL 8.7 (Jöreskog & Sörbom, 2002). This study used a two-step approach (Anderson & Gerbing, 1998) in which the validity of the measures was first assessed by a confirmatory factor analysis (CFA), which specifies the structure

between a set of observed variables and a predetermined number of latent constructs, and subsequently by testing the conceptual structural equation model (SEM). This study used an aggregation approach to group items into subsets and hence to get a parsimoniously represented measurement model (Bagozzi & Heatherton, 1994). The averaged composite variables of the four dimensions of mindfulness (attention, awareness, present-focus and non-judgment) were created as indicators for the mindfulness construct based on this approach.

Since the research model of this study contains dichotomous variables (information source composition and narration style), the analysis was based on a polychoric correlation matrix (Muthén & Christoffersson, 1981). To test the interaction effect of the information source composition and narration style, which were manipulated as experimental conditions, the dummy codes for each variable were multiplied to create interaction terms based on Ping's approach (Ping, 1995, 1996). Therefore, the product term of the summed information source composition and narration style constructs was used as the sole indicator of the latent product.

To assess adequate internal consistency and unidimensionality, loading values, composite reliability, convergent validity and discriminant validity were estimated (Fornell & Larcker, 1981; Anderson & Gerbing, 1988). This study further used goodness-of-fit indexes to evaluate model fit: Chi-square (χ^2), normalized Chi-square (χ^2/df), normed fit index (NFI), nonnormed fit index (NNFI), and comparative fit index (CFI) (Raykow, Tomer, & Nessleroade, 1991). In addition, a widely used misfit index, the root mean square error of approximation (RMSEA) was used. NFI, NNFI, and CFI which

exceed .90 indicate an acceptable fit (Hu & Bentler, 1999). RMSEA less than 0.05 indicates a good fit.

4. Results and Discussion

4.1. Measurement Model

This study measured the seven constructs of social presence, mindfulness, learning, enjoyment, escape, attitudinal stewardship, and behavioral intention towards stewardship with a total of 38 indicators. With item deletion and re-specification based on the modification indices, the final measurement model (Table 3) exhibited a good model-fit and adequate internal consistency and unidimentionality as indicated by measures such as loading values and composite reliability; convergent, and discriminant validity were also examined. The internal consistency of the proposed measurement model was established with reliabilities ranging from 0.76 to 0.92 and the AVE of all the constructs exceeded 0.51. The SMC, loading values and the t-values showed convergent validity of the measurement model. Discriminant validity is achieved since all the AVE of the construct exceeded the largest squared correlation (0.41) (Fornell & Larcker, 1981; Netemyer, Johnston & Burton, 1990). In this study, after the CFA identified the adequacy of measurement of all seven latent constructs in the structural model, we proceeded with confidence to the structural equation modeling (SEM) analysis.

Insert Table 3 about here

4.2. Overall Fit of the Hypothesized Structural Model

A large modification index (MI=11.25) between escape experience and enjoyment experience suggested specifying a path between enjoyment and escaping (Byrne, 1998). Even though the path was identified based on statistical criteria, the inclusion of the path is meaningful since the more tourists visiting a park feel they are escaping from daily life, the more they can enjoy their visit. The results from the estimation of the research model yielded model fit indices of $\chi^2_{(df=232)}$=461.85 at p=0.00. However, the normalized chi-square statistic (χ^2/df) is 2.00, which can be interpreted as reflecting an adequate fit (Gefen, Straub, & Doudreau, 2000). The other model fit indices suggested that the model fits the data well (RMSEA=0.066; NFI=0.94; and CFI=0.97). The squared multiple correlations (SMC) assess the extent to which the model explains the variance in the data set. The model fairly well explains social presence (SMC=0.51), learning (SMC=0.38), enjoyment (SMC=0.72), escape (SMC=0.40), and attitudinal stewardship (SMC=0.70); reasonably well behavioral stewardship (SMC=0.32); however the model does not explain mindfulness (SMC=0.01).

4.3. Parameter Estimates

The summary of the parameter estimates and their test significance is given in Table 4 and Figure 2. First of all, information source composition manipulated by a single vs. multiple voice condition has a significant effect on social presence (path coefficient = 0.19 at t=2.20. p=0.028). This result supports H1a. The effect of narration style (formal vs. conversational narration style) on social presence was marginally significant (path coefficient = 0.07 at t=1.55, p=.12). . Given the constraints of field experiments, this study adopted a less conservative significance level for this analysis

(p=0.12) based on several scholars' suggestion (Dineen, Lewicki & Tomlinson, 2006; McClelland & Judd, 1993; Lavrakas, 2008) and identified H2a as supported. The effects of narration style and source composition on mindfulness were not significant; therefore, H1b and H2b were not statistically supported. This result indicates that there is no difference in effect between the two different narration style manipulations in enhancing perceived social presence and mindfulness. Social presence influenced enjoyment (path coefficient =0.17, t=2.35), and escaping (path coefficient =0.30, t=2.72), but not learning. Therefore, H3b and H3c were supported; however H3a was not accepted.

Mindfulness is positively related to social presence (path coefficient =0.71, t=6.77). Therefore, H4 was supported. As hypothesized, mindfulness is likely to influence perceptions of social presence. Mindfulness has a positive influence on learning (path coefficient=0.56, t=4.30), enjoyment (path coefficient =0.47, t=4.02), and escape (path coefficient==0.38, t=3.09). Therefore, H5a, H5b, and H5c were supported. Experiencing escape positively influences enjoyment (path coefficient=0.33, t=4.39). All three experience dimensions positively influenced attitudinal stewardship: learning (path coefficient =0.36, t=5.68), enjoyment (path coefficient=0.36, t=3.96), and escaping experience (path coefficient = 0.29, t=3.40). Therefore, H6a, H6b, and H6c were supported. Finally, attitudinal stewardship has a positive impact on behavioral intentions to engage in stewardship (path coefficient =0.56, t=6.73). Therefore H7 was supported.

Insert Table 4 and Figure 2 about here

5. Conclusion

The purpose of this research was to examine the influences of podcast tours on tourist experiences. Specifically, this study attempted to investigate how human voice enhances perceptions of social presence and mindfulness that lead to favorable tourist experiences and stewardship towards a national park. The findings supported that even if communicated through audio-only media, the human voice creates a positive social context for meaningful interaction, which influences tourist experiences and stewardship. Therefore, this research identified the usefulness of podcast tours as interpretative media.

The results showed that podcast tours manipulated by multiple narrators' voice and conversational narration style included in interpretive podcast tours can increase perceived social presence, which in turn leads to enhanced tourist experiences and environmental stewardship. That is, individuals responded more socially to multiple voices implemented in the podcast tour than a single voice. This result implies that voices play an important role in conveying social cues that lead to feelings of social presence. The results also confirmed that the conversational narration style is more effective in increasing social presence than the formal narration style. In other words, the more self-referenced information (e.g., you, yours or comments targeted to a listener) audio tours contain, the more social cues are conveyed to listeners (Rogers, et., al, 1977; Mayer, Sobko & Moutone, 2003). One of the important findings is that enhanced by social elements (multiple voice and conversational narration style) conveyed by podcast tours, perceived social presence is an important mediator influencing tourist experiences. Social responses to a narrator's voice on podcast tours leads to enhanced experiences, in particular, enjoyment and escape. Although this study could not identify significant effects of social characteristics of podcast tour voices on mindfulness, increased

mindfulness leads to enhanced enjoyment, escape and learning experiences, which lead to enhanced stewardship. Most importantly, the findings suggest that tourists' positive experiences in a national park lead to attitudinal stewardship, which in turn influences intentions to engage in behavioral stewardship.

5.1. Theoretical Implications

The findings of this research supported that use of voice itself can easily make participants feel that they are interacting with an effective surrogate for a person. This is evidence that although mediated or simulated objects do not warrant the use of physical and social reasoning modules, interaction with media or information technologies are basically social and natural, just like interaction in real life (Reeves & Nass, 1996). Therefore, this study provided strong evidence in support of the media equation theory and social presence theory that individuals keep using social responses to interpret stimuli on the screen or to interact with information technologies assigning humanistic characteristics to information technologies in the same way as they would assign the characteristics to humans. Similar to Bateson, Nettle & Roberts (2006), who found that a pair of eyes included on a poster promoted social behaviors, this study illustrates that social cues do not have to be complex to stimulate feelings of social presence. Furthermore, the important contribution of the current study is that the media equation is applicable to mobile and handheld technologies. It is apparent that handheld devices have some limitations to deliver socially rich information due to their constraints. For example, the small screen limits interaction between the users and devices; the keyboard of mobile devices might also limit the interactivity between users and the devices. Therefore,

mobile devices function mainly based on voice. As shown in the current study, participants in the media equation experiment did not notice the artificiality of their interaction with the mobile technology and believed that they were interacting with an effective surrogate of a person even though they only listened to recorded voices.

This study showed that multiple prerecorded human voices manifest multiple human sources and thereby naturally induce the multiple source effect. The present study provided empirical evidence that the multiple source effect can be induced by human vocal cues. Past research showed the multiple source effect heavily relying on the manipulation of linguistic cues (e.g., textual message). This study expands the domain of modality (from text to audio) to which the multiple source effect applies. Another contribution of this study is to provide empirical evidence of the effect of self-referencing. As previously discussed, the self-referencing effect explains that a message containing self-referencing word(s) or phrase(s) conveys more social cues than a message without self-referencing. The findings empirically verified that voice-induced social cues formulate a social conversation schema.

The results suggest that human voice conveyed through a technology lead to positive tourism experiences, which translate into environmental stewardship toward a national park. Thus, the study also contributes to research on positive experiences by confirming theories such as the Stimulus-Organism-Behavioral Responses (S-O-R) paradigm by Mehrabian & Russell (1974) and the Broaden-and Build Theory by Fredrickson (1998). According to the S-O-R model (Mehrabian & Russell, 1974), environmental stimuli influence humans' emotions which result in two contrasting behaviors: approach and avoidance. Applying this model, many scholars found that

stimuli providing positive experiences have powerful behavioral impacts. In this study, voice cues emerged as external stimuli that can lead to positive experiences. Similarly, Fredrickson (1998; 2001;2005) proposed the Broaden-and Build Theory of Emotion to capture the unique effect of positive emotion on a variety of social and psychological responses. The theory states that certain discrete positive emotions like joy, interest, contentment, and love have the ability to broaden people's momentary thought-action repertories and therefore promote quick and decisive action. Studies based on this theory showed the effect of positive emotions on broadening the scope of attention, cognition and action. The current study clearly illustrates how a positive emotion like enjoyment can influence thoughts about stewardship.

This study supported social presence theory. The findings show that social responses to human voice contained in podcast tours are oriented toward imagined human actors such as park rangers. This conclusion supports that information technologies play a role as quasi-human actors when the technologies provide multiple voices. Specifically, this study showed that social responses to a technology can be induced even when social cues are only conveyed through voices. So a variety of modalities can be used to increase social responses to interpretation contents. The current study further confirmed that perceived social presence enhanced by social components conveyed through information technology influences tourist experiences and environmental stewardship. This study also provides empirical support that mindfulness, as an ongoing psychological state, enhances tourism experiences. The findings identified that open and receptive attention to and awareness of current events and experiences, help people engage with their surroundings, which leads to enhanced experiences. Distinguished from present-focus concepts such as

flow, immersion, and absorption, mindfulness was identified as an important factor to increase national park stewardship, mediated by positive experiences.

5.2. Practical Implications

This study identified that podcast tours have a potential to enhance tourist experiences and national park stewardship by increasing interpretation effectiveness. The results provide evidence that podcast tours developed by multiple narrators using a conversational narration style are likely to increase interpretation service effectiveness in enhancing tourist experiences by facilitating perceived social interaction. Therefore, park management should consider recording podcast tours with multiple narrators when developing audio interpretation services. The findings of this study show that social presence and mindfulness are critical in enhancing tourist experiences. Thus, it is important for national parks to find ways through which social presence perceptions and mindfulness can be increased.

Even though the social characteristics of podcast tours did not influence mindfulness, mindfulness itself influences tourist experiences and stewardship. It is, thus, critical to make tourists visiting a national park mindful. While the specific design characteristics of the podcast tour did not influence mindfulness, mindfulness levels were generally quite high, which could have been caused simply by providing a podcast tour. As identified in this study, information technologies as interpretation service tools can play a role in ultimately increasing stewardship if they enhance the experience at the national park. Thus, enhancing tourist experiences while at a park should be the primary focus in efforts to increase stewardship.

Although park ranger-based interpretation services are seen as the most effective and preferred type of interpretation (National Park Service, 2003), park ranger interpretation services could be limited because of time and cost. The participants in this study had experiences in using podcast tours and generally had high opinions of the tour offered. This suggests that national parks should consider offering this kind of interpretation service.

6. Limitations of the Current Study and Suggestions for Future Research

The present study has several limitations. First, the experiment was conducted only during a 10 day period in August 2008. Most of the participants were therefore motivated to visit the park to enjoy the beach rather than to learn about the park. Therefore, the sample might weaken the generalizability of the current study. Second, although tourists were randomly approached, self-selection biases might still exist as not everyone agreed to participate in the study. Since no incentives were provided, participation was dependent on the motivation of the participants to help with the study. Third, the study did not have a control group because it focused on experiences induced by different types of podcast tours. A control group could have allowed for a test of the overall influence of having access to a podcast tour. Since there are very few interpretation services in PAIS, just the fact of having a podcast tour available could have been so influential that differences in the characteristics of the podcast tours could have been masked. Unfortunately, due to the lack of a control group, this assumption cannot be tested. Thus, while the observed differences among the manipulations build some

confidence that the different kinds of podcasts improve the experience at the park, the value of the podcast tours compared to no interpretation at all will remain unknown..

Further, the sample size of this study (*N=221*) is small but was considered adequate to provide sufficient statistical power for data analysis for this study based on several guidelines provided by the literature. Researchers who have addressed this question argue that 100 to 150 subjects is the minimum satisfactory sample size (Ding, Velicer, & Harlow, 1995). Hoelter (1983) suggested that any number above 200 is sufficient to estimate model fit. Specifically, Anderson and Gerbing (1988) indicate that a sample size of 150 or more is typically needed to obtain parameter estimates that have standard errors small enough to be of practical use. As an example, Tanaka (1987) reports relatively stable estimates in a small sample with a 4:1 subjects-to-parameters ratio. Based on these studies, the sample size of this study was proper to make the analysis valid. However, there is generally little consensus on the recommended sample size for SEM (Sivo, Fan, Witta, & Willse, 2006). In SEM analysis, sample size is important since one needs a reasonable indication of whether a specific sample size is sufficient to estimate parameters and determine model fit given the specific theoretical relationships among latent variables (Schumacker & Lomax, 2004). Therefore, a bigger sample would have increased confidence in the results.

Although this study used a polychoric correlation matrix (Muthén & Christoffersson, 1981) and Ping's approach (Ping, 1995, 1996) to measure the interaction effect of the two manipulations (information source composition x narration style), the results showed no interaction effect. One would expect there to be a powerful compounding effect with the two key dependent variables, thus the methodological

approach has to be questioned. Some scholars have argued that SEM analysis might not support a non-linear relationship because SEM is based on linear modeling with underlying statistical assumptions and hence inclusion of a product term violates this assumption (Kenny & Judd, 1984; Jöreskog & Yang, 1996). Therefore, this particular finding needs to be cautiously interpreted.

The study results suggest that mindfulness is an important concept that enhances tourism experiences. However, the research study could not answer the question of what encourages mindfulness. This could be due to measurement problems in that mindfulness either is encouraged or not and that this relationship therefore is distorted by a scale that measures extent of mindfulness. More research is needed to adequately address this issue and help in the interpretation of the current study results.

Since the present study was only conducted in a national park environment, it is not known whether the findings can be applied to other tourism contexts. As an example, in a museum, the effect of podcast tours might be different because museums provide a variety of exhibits or interpretation information through various information technologies, which attract museum visitors' attention. A big national park such as Yellowstone also might require different podcast tour designs. It is easily assumed that podcast tours might be more effective in such a setting because tourists would be more isolated from national park rangers and interpretation services than in small size parks. Therefore, in the future, it will be valuable to investigate the effect of podcast tours on tourist experiences in different tourism contexts.

The present study tested only information source composition and narration style focusing on the effects of multiple voices and conversational narration style in enhancing

tourist experiences. It is expected that other podcast tour characteristics such as sound/music effects, gender of voice and length of the audio segments influence the relationships among the tested constructs in the research model. Other podcast tour elements should be considered in future research. For example, the gender of voices has different effects on persuasion. It has been argued that female voices are perceived as more sensitive, emotionally responsive, people-oriented, and kind (Nass et al., 1997). In contrast, male voices are more trustful depending on the context (Nass & Brave, 2005). Thus, such effects need to be tested in the context of podcast tours in order to inform their design for tourism purposes.

REFERENCES

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(4), 411-423.

Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgment. In H. Guetzkow (ed.) *Groups, leadership and men*. Pittsburgh, PA: Carnegie Press.

Baer, R. A., Smith, G. T., & Allen, K. B. (2004). Assessment of mindfulness by self report: The Kentucky Inventory of Mindfulness Skills. *Assessment, 11*(2), 191 206.

Bagozzi, R. P., & Heatherton, T. F. (1994). A general approach to representing multifaceted personality constructs: Application to state self-esteem. *Structural Equation Modeling, 1*(1), 35-67.

Bargh, J. A. (1982). Attention and automaticity in the processing of self-relevant information. *Journal of Personality and Social Psychology*, *43*(3), 425-436.

Bateson, M., Nettle, D., & Roberts, G. (2006). Cues of being watched enhance cooperation in a real-world setting. Biology Letter, 2(3), 412-414.

Benckendorff, P., Moscardo, G., & Murphy, L. (Eds.). (2006). Proceedings from Cutting Edge Research in Tourism `06: *Visitor Perceptions of Technology Use in Tourist Attractions.* Surrey, UK

Bobbitt, L.M., & Dabholkar, P.A. (2001). Integrating attitudinal theories to understand and predict use of technology-based self-service: The Internet as an illustration. *International Journal of Service Industry Management, 12*(5), 423 – 450.

Bodner, T. E., & Langer, E. J. (2001). Individual differences in mindfulness: the mindfulness/mindlessness scale. Poster presented at the 13th Annual American Psychological Society Convention, Toronto, Ontario, Canada.

Brandtzeg, P. B., Folstad, A., & Heim, J. (2003). Enjoyment: Lessons from Karasek. In M. A. Blythe, K. Overbeeke, A. F. Monk, & P. C. Wight (Eds.), *Funology from usability to enjoyment* (pp.55-65). Dordrecht, Netherland: Kluwer Academic Publishers.

Brent, E., & Thompson, G. A. (1999). Sociology: Modeling social interaction with autonomous agents. *Social Science Computer Review, 17*(3), 313-322.

Brown, B., & Chalmers, M. (2003). Tourism and mobile technology. In Kuutti, K., Karsten, E. H., Fitzpatrick, G., Dourish, P., & Schmidt, K. (Eds.), *Proceedings of the ECSCW'03 Eighth Conference on Computer Supported Cooperative Work*, pp. 335-354. Norwell, MA: Kluwer Academic Publishers.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*(4), 822-848.

Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Target article: Mindfulness: Theoretical foundations and evidence for its salutary effects. *Psychological Inquiry, 18*(4), 211-237.

Burgoon, J. K., & Berger, C. R., & Waldron, V. R. (2000). Mindfulness and interpersonal communication. *Journal of Social Issues, 56*(1), 105-127.

Burnkrant, R. E., & Unnava, H. R. (1989). A strategy for increasing processing of message content. *Personality and Social Psychology Bulletin, 15*(4), 628-638.

Byrne, B. M. (1998). *Structural equation modeling with LISREL- PRELIS and SIMPLIS*. London: Lawrence Erlbaum.

Carlson, R. (1997). *Experienced cognition.* New York: Lawrence Erlbaum Associations.

Csikszentmihalyi, M (1990). *Flow: The psychology of optimal experience*. New York:Harper/Collins.

Chatzisarantis, N. L. D., & Hagger, M. S. (2007). Mindfulness and the intention behavior relationship within the theory of planned behavior. *Personality and Social Psychology Bulletin, 33*(5), 663-676.

Daboholkar, P.A., & Bagozzi, R. P. (2002). An attitudinal model of technology-based self-service: Moderating effects of consumer traits and situational factors. *Journal of the Academy of Marketing Science, 30*(3), 184-201.

Davis, G. R. (2005). National park stewardship and vital signs monitoring: A case study from Channel Islands National Park, California. *Aquatic Conservation: Marine and Freshwater Ecosystems, 15*(1), 71-89

Davis, R. D., Bagozzi, R. P., & Warshaw P. R. (1989). User acceptance of computer technology: A comparison of two theoretical model. *Management Science, 35*(8), 982-103.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology, 22*(14), 1111-1132.

DeBono, K. G., & Harnish, R. J. (1988). Source expertise, source attractiveness, and the processing of persuasive information: A functional perspective. *Journal of Personality and Social Psychology, 55*(3), 541-546.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Department of the Interior (2006). Statement of Marcia Blaszak. Retrieved March 13, 2009 from http://www.doi.gov/ocl/2006/NationalParksOfAlaska.htm

Dineen, B. R., Lewicki, R. J., & Tomlinson, E. C. (2006). Supervisory guidance and behavioral integrity: Relationships with employee citizenship and deviant behavior. *Journal of Applied Psychology, 91*(3), 622-635.

Ding, L. Velicer, W. F., & Harlow, L. L. (1995). Effects of estimation methods, number of indicators per factor, and improper solution on structural equation modeling fit indices. *Structural Equation Modeling, 2*(1), 119-114.

Donald, B. J. (1997). Fostering volunteerism in an environmental stewardship group: A report on the task force to bring back the Don, Toronto, Canada. *Journal of Environmental Planning and Management, 40*(4):483-505.

eMarketer (2009). Demographic profile os US Internet users who have ever downloaded podcasts, 2006, 2007 & 2008. Retrieved June 13 from http://totalaccess.emarketer.com/Article.aspx?R=1006510&Ntt=podcast+download&No6&xsrc=article_head_sitesearchx&N=0&Ntk=basic

Feldman, G., Heyes, A. Kumar, S., Green, J., & Laurenceau, J. (2007). Mindfulness and emotional regulation: The development and initial validation of the cognitive and affective mindfulness scale-revised (CAMS-R). *Journal of Psychopathogy Behavior assess, 29*(2), 177-190.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equations models without unobservable variable and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

Future of Privacy Forum (2009). Online behavioral advertising “icon” study. Retrieved March, 2010 from http://futureofprivacy.org/final_report.pdf

Franklin, A. (2003). *Tourism: An Introduction.* London: Sage.

Frauman, E., & Norman, W. (2003). Special issue: Sustainable places: Managing visitors via mindful information service: One Approach in addressing sustainability. *Journal of Park and Recreation Administration, 21*(4), 87-104.

Frauman, E., & Norman, W. (2004). Mindfulness as a tool for managing visitors to tourism destinations. *Journal of Travel Research, 42*(4), 381-239.

Fredrickson, B. (1998). What good are positive emotions? *Review of General Psychology, 2*(3), 3000-319

Fredrickson. B. (2001). The role of positive emotions in positive psychology. *American Psychologiest, 56*(3), 218-226.

Fredrickson, B. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*(7), 678-686.

Fulk, J., Schmitz, S. C., & Power, G. J. (1987). A social information processing model of media use in organizations. *Communication Research, 14*(5), 520-522.

Gefen, D., & Straub, D. (2003). Managing user trust in B2C e-service. *e-Service Journal, 2*(2), 7-24.

Gefen, D., Straub, D. W., & Doudreau, M. (2000). Structural equation modeling and regression: Guideline of research practice. *Communications of the Association of Information System, 4*(7), 1-78.

Gildart, B. (2005). National Park Service VIPs. Motorhome Magazine, January 2005. Retrieved June, 2010 from http://www.motorhomemagazine.com/output.cfm?id=1163089

Goleman, D. (2006). *Social intelligence: The New Science of Human Relationships*. New York: Bantam.

Goulding, C. (2000). The museum environment and the visitor experience. *European Journal of Marketing, 34*(3/4), 261-278.

Gretzel, U. (2010). Travel in the Network: Redirected Gazes, Ubiquitous Connections and New Frontiers. In Levina, M. & Kien, G. (Eds.). Post-global Network and Everyday Life, pp. 41-58. New York: Peter Lang.

Gretzel, U., & Jamal, T. (2007). The rise of the creative tourist class: Technology, experience and mobilities. In Dimanche, F. (Ed.), Tourism, Technology & Mobility: *Proceedings of the TTRA Europe Conference,* pp. 22-28. Nice, France: CERAM Business School.

Hancock, P. H. (2007). Assessing an individual's sense of stewardship and the successful characteristics of volunteer stewardship groups. Master of Science Thesis, Northern Arizona University). Retrieved July, 2008 from http://www.google.com/#hl=en&q=Assessing+an+individual%E2%80%99s+sese+of+stewardship+and+the+successful+characteristics+of+volunteer+stewardsip+groups&btnG=Google+Search&aq=f&oq=&aqi=&fp=Xmf0jJ9P_V0

Harkins, S. G., & Petty, R. E. (1981a). The effects of source magnification on cognitive effort and attitudes: An information processing view. *Journal of Personality and Social Psychology*, *40*(2), 401-413.

Harkins, S. G., & Petty, R. E. (1981b). The multiple source effect in persuasion: The effect of distraction. *Personality and Social Psychology Bulletin, 7*(4), 627-635.

Harkins, S. G., & Petty, R. E. (1983). Social context effects in persuasion: The effects of multiple sources and multiple targets. In P. Paulus (Ed.), *Advances in group Psychology* (pp. 149-175). New York: Springer Verlag.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experimental approach to behavior change.* New York: Guilford Press.

Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic consumption: Emerging concepts, methods, and propositions. *Journal of Marketing, 46*(1), 92-101.

Hoelter, J. W. (1983). The effects of role evaluation and commitment on identity salience, *Social Psychology Quarterly*, *46*(2), 140-147.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives, *A Multidisciplinary Journal, 6*(1), 1-55.

Jöreskog, K. G., & Sörborm, D. (2002). *LISREL 8.52*. Chicago, IL: Scientific Software International.

Jöreskog, K. G., & Yang, F. (1996). Nonlinear structural equation models: The Kenny-Judd model with interaction effects. In G. A. Marcoulides & R. E. Schumacker (Eds.), Advanced structural equation modeling techniques (pp. 57-88). Hillsdale, NJ: Lawrence Erlbaurm.

Kenny, D., & Judd, C. M. (1984). Estimating the nonlinear and interactive effects of latent variables. *Psychological Bulletin*, 96 (2), 201-210.

Kotler, N., & Kotler, P. (2000). Can museums be all things to all people? Missions, goals, and marketing's role. *Museum Management and Curatorship, 18*(3), 271-297.

Lang (2000). The limited capacity model of mediated message processing. *Journal of Communication, 50*(1), 86-115.

Langer, E. J. (1992). Matters of mind: Mindfulness/mindlessness in perspective. *Consciousness and Cognition, 1*(3), 289-305.

Langer, E. J. (1989). *Mindfulness.* Reading, MA: Addison Wesley.

Langer, E. J., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of Social Issues, 56*(1), 1-9.

Lavrakas, P. (2008). *Encyclopedia of survey research methods*. Sage Publications, Inc.

Lee, K. M. (2002). *Social responses to synthesized speech: Theory and application.* Stanford, CA: Stanford University.

Lee, K. M., & Nass, C. (2004). The multiple source effect and synthesized speech: Doubly disembodied language as a conceptual framework. *Human Communication Research, 30*(2), 182-207.

Lee, K. S., & Gretzel, U. (August, 2006). Consumer Generated Media (CGM). *Laboratory forIntelligent Systems in Tourism, Texas A&M University.* Retrieved July 3, 2006, from http://list.rpts.tamu.edu/research/Lee%20and%20Gretzel %20CGM %20Report202006.df

Leiserowitz, A. A., Kates, R. W., & Parris, T. M. (2006). Sustainability Values, Attitudes and Behaviors: A Review Of Multi-National And Global Trends. *Annual Review of Environment and Resources. 31,* 413-444.

Leopold, A. (1979). Some fundamentals of conservation in the southwest. *Environmental Ethics*, 1.

Lerner, S. C. (1986). Environment constituency-building: Local initiatives and volunteer stewardship. *Alternatives 13*(3), 55-60.

Lita, N. (1999). Community empowerment approaches to environmental stewardship.Master of Science Thesis, University of Guelph). Retrieved July, 2008 from http://www.collectionscanada.gc.ca/obj/s4/f2/dsk2/ftp01/MQ35919.pdf

Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. *Journal of Computer-Mediated Communication, 3*(2), 1-22. Retrieved July 3, 2006, from http://www.blackwell-synergy.com/doi/full/10.1111/j.1083 6101.1997.tb00072.x

Lombard, M., & Ditton, T. (2002). Measuring presence: A literature-based approach to the development of a standardized paper-and-pencil instrument. *Proceedings of the Third International Workshop on Presence, Delft, The Netherlands.*

Mayer, R. E., Fennell, S., Farmer, L., & Campbell, J. (2004). A personalization effect in multimedia learning: students learn better when words are in conversational style rather than formal style. *Journal of Educational Psychology, 96*(2), 389-395.

Mayer, R. E., Sobko, K., Moutone, P. D. (2003). Social cues in multimedia learning: role of speaker's voice. *Journal of Educational Psychology, 95*(2), 419-425.

McCannell, D. (1976). *The tourist: A new theory of the leisure class*. New York: Schocken.

McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin, 114*(3) 376-390.

McCuddy, M. K., & Pirie, W. L. (2007). Spirituality, stewardship, and financial decision making: Toward a theory of intertemporal stewardship. *Managerial Finance, 33*(12), 957-969.

Mehrabian, B., Russell, J. A. (1974). *An approach to environment psychology*. Cambridge, MA: MIT Press; 1974.

Mitchell, B. A., & Brown, J. L. (1998). Stewardship: a working definition environment. *Journal of Interdisciplinary Studies,* 26(1), 8-17.

Monk, A. F., Hassenzahl, M., Blythe, M., & Reed, D. (2002). Funology: Designing enjoyment. *Conference on Human Factors and Computing Systems, CHI 2002,* Minneapolis, Minnesota, USA.

Moreno, R., & Mayer, R. E. (2000). Engaging students in active learning: the case of personalization multimedia messages. *Journal of Educational Psychology, 92*(4), 724-733.

Moran, J. M. (2006). Self-relevance, attention and the brain. (Doctoral dissertation Darthmouth College, 2006). *ProQuest Dissertation and Theses,* UMI3219720

Moscardo, G. (1999). *Making visitors mindful.* Sagamore: Champaign, IL.

Muthén, B., & Christofferson, A. (1981) Simultaneous factor analysis of dichotomous variables in several groups. *Psychometrika, 46*(4), 485-500.

Nass, C., & Brave, S. (2005). *Wired for Speech: How voice activates and advances the human computer relationship.* Cambridge, MA: MIT Press.

Nass, C., & Gong, L. (2000). Speech interfaces from an evolutionary perspective: Social psychological research and design implications. *Communications of the ACM, 43*(1), 36-43.

Nass, C., Moon, Y., & Green, N. (1997). Are computers gender-neutral? Gender stereotypic responses to computers. *Journal of Applied Social*, 27(10) 864-876.

National Park Service (2003). *Visitor use and evaluation of interpretive media. A report on visitors to the national park system.* Washington D.C. U. S Department of the Interior.

National Park Service (2008). National Park Service rangers take public on podcastingadventure. Retrieved September 11, 2009 from http://home.nps.gov/news/release.htm?id=811

National Park Service (2009). National Park Service. Retrieved August 15, 2009 from http://www.nps.gov/index.htm

Netemyer, R. G., Johnston, M. W., & Burton, S. (1990). Analysis of role conflict and role ambiguity in a structural equations framework. *Journal of Applied Psychology, 65*(2), 148-164.

O'Dell, T. (2007). Tourist experiences and academic junctures. *Scandinavian Journal of Hospitality and Tourism, 7*(1), 34-45.

Oh, H., Fiore, A. M., & Jeoung, M. (2007). Measuring Experience Economy Concepts: Tourism Applications. *Journal of Travel Research*, *46*(2), 119-132.

Pearce, P. L. (2005). *Tourist Behavior: Themes and conceptual schemes.* Great British: Channel View Publications.

Phillips, A. (1998). Preference. *Environments. 26*(1), v – vii.

PhoCusWright (2008). The next generation travelers. Retrieved September, 2009 from http://www.phocuswright .com/library/pressrelease/526

Pine, B. J., & Gilmore, J. H. (1998). Welcome to the experience economy. *Harvard Business Review, 76*(4), 97-105.

Ping, R. A. (1995). A parsimonious estimating technique for interaction and quadratic latent variables. *Journal of Marketing Research, 32(3),* 336-347.

Ping, R. A. (1996). Estimating latent variable interactions and quadratics: the state of the art. *Journal of Management, 22(2),* 163-183.

Pittman, J. (1994). *Voice in social interaction: An interdisciplinary approach*. United Kingdom: Sega Publication

Potter, R. F. (2000). The Effects of voice changes on orienting and immediate cognitive overload in radio listeners. *Media Psychology, 2*(2), 147–177.

Potter, R. F., Lang, A., & Bolls, P. D. (1998). Orienting to structural features in radio messages. *Psychophysiology, 35*, S66.

Randall, C., & Rollins, R. (2005). Role of the Tour Guide in National Parks. Paper presented at the Eleventh Canadian Congress on Leisure Research, May 17-20, 2005, Nanaimo, B.C. Retrieved June 2010 from http://lin.ca/Uploads/cclr11/CCLR11-115.pdf

Raykov, T., Tomer, A., & Nesselroade, J. R. (1991). Reporting structural equation modeling results in Psychology and Aging: Some proposed guidelines. *Psychology and Aging, 6*(3), 499-503.

Reeves, B., & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places*. Stanford, CA: CSLI Publications.

Rogers, T. B., Kuiper, N. A., & Kirker, W. S. (1977). Self –reference and the encoding of personal information. *Journal of Personality and Social Psychology, 35*(4), 677-688.

Ryan, C. (1997). *The tourist experience: A new introduction.* London: Cassell.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychology, 55*(1), 68-78.

Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling.* Mahwah, NJ: Lawrence Erlbaum.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research, 15*(3), 325-343.

Shimp, T. A., & Kanvas, A. (1984). The theory of reasoned action applied to coupon usage. *Journal of Consumer Research, 11*(3), 795-809.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications.* London: Wiley.

Sivo, S. A., Fan, X. T., Witta, E. L., & Willse, J. T. (2006). The search for optimal cutoff properties: Fit index criteria in structural equation modeling. *The journal of experimental education, 74*(3), 267-289.

Skalski, P. (2004). Interactive social agent and social presence effects on information processing and persuasion. (Doctoral dissertation, Michigan State University, 2004). *ProQuest Dissertation and Theses*, AAT 3159006

Stamboulis, Y., & Skyannis, P. (2003). Innovation strategies and technology for experience based tourism. *Tourism Management, 24*(1), 35-43.

Stern, M. J., Powell, R. B., & Ardoin, N. M. (2008). What difference does it make? Assessing outcomes from participation in a residential environmental education program. *Reports & Research, 39*(4), 31-43.

Stewart, E., Hayward, B. M., & Devlin, P. J. (1998). The place of interpretation: A new approach to the evaluation of interpretation. *Tourism Management, 19*(3), 257 266.

Sundar, S. S., & Nass, C. (2000). Source orientation in human-computer interaction. *Communication research, 27*(6), 683-703.

Tanaka, J. S. (1993). Multifaceted conceptions of fit in structural equation models. In k. A. Bollen & J. S. Long (Eds.). Testing structural equation models (pp. 10-39). Newbury Park, CA: Sage Publications, Inc.

Teasdale, J. D. (1999). Emotional processing, three modes of mind and the prevention of relapse in depression. *Behavior Research and Therapy, 37*(1), 53-77.

Truax, B. (2001). *Acoustic communication.* Ablex Publishing: Westport, CT.

Urry, J. (1990). *The tourist gaze.* London: Sage.

Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research, 19*(1), 52-90.

Watt, J. H. J., & Welch, A. J. (1983). Effects of Static and Dynamic Complexity on Children's Attention and Recall of Televised Instruction. In J. Bryant and D.R. = Anderson (Ed.), *Children's understanding of television* (pp. 69-102). New York: Academic.

Weiler, B., & Ham, S. H. (2001). Tour Guides and Interpretation in Ecotourism. Chapter 35 in Weaver, D. (ed.), The Encyclopedia of Ecotourism. Wallingford, UK: CABI Publishing, pp. 549-563.

Wilson, F. J., & Sherrell, D. L. (1993). Source effects in communication and persuasion research: A meta-analysis of effect size. *Journal of the Academy of Marketing Science, 21*(2), 101-112.

Williams, B. L., & Magsumbol, M. S. (2007). Perceptions toward stewardship among residents living near U.S. department of energy nuclear facilities. *Environment, Development and Sustainability, 9*(1), 49-78.

Winkle, C. M., & Backman, K. F. (2006). Proceedings from TTRA Annual Conference ’06: *Examining visitor mindfulness at a cultural tourism event*. Dublin, Ireland.

Zajonc, R. B. (1965). Social facilitation. *Science, 149* (2), 269-27

Table 1
Profiles of Participants

Profile of Respondents	%
Gender	
Female	56.4
Male	43.6
Age	
18-24	11.4
25-34	11.4
35-44	25.5
45-54	25.0
55-64	18.2
65 or older	8.6
Education	
High School	11.8
Less than 12 years	1.4
Some college	21.4
A degree from a 2 yr college	9.1
Graduate from 4 yr university	23.2
Some graduate school	7.7
A graduate degree	25.5
Children in Travel Group	
0-5 years	12.7
6-10 years	29.4
11-17 years	24.0
The number of people in travel group	
One	2.3
Two	35.4
Three	18.8
Four or more	43.9
Frequency of Visit	
First time	58.9
2 – 3 times	28.5
4 – 5 times	5.9
6 times or more	7.2
Time of Decision to Visit	
Early today	24.5
Yesterday	17.3
Within past week	14.5
1-3 weeks ago	20.5
1-5 months ago	15.9
More than 6 months ago	7.3
Length of Stay	
< 1 hours	1.4
1 – 2 hours	12.3
2 – 5 hours	45.0
5 – 24 hours	19.1
Overnight	22.3

Table 2
Constructs and Items in Measurement Model

Construct	Notation	Item
Social Presence	SP 1	I felt cared for in the park even though there was no human guide.
	SP 2	I felt involved with the narrator(s).
	SP 3	I perceived the narrator(s)' messages as being personal
Mindfulness	MF 1 (Attention)	I could pay attention to what I was doing.
		It was easy for me to concentrate on what I was doing.
		I was able to pay close attention to the environment.
	MF 2 (Present-Focus)	I was open to the experience of the moment.
		I was able to focus on the moment.
		Part of my mind was occupied with other topics such as what I will be doing later, or things I'd rather be doing.
	MF 3 (Awareness)	I noticed my surroundings when walking in the park.
		I was aware of smells and sounds and feelings such as the wind blowing in my face.
		I was attentive to my movements.
		I was aware of other people in the park.
		I could describe how I felt and thought at the moment.
Learning	LE 1	I expanded my understanding of the park.
	LE 2	I gained information and knowledge about the park.
	LE 3	I learned many different things about the park.
Enjoyment	EN 1	I had fun.
	EN 2	I enjoyed being in the park.
	EN 3	I derived a lot of pleasure from the tour.
Escape	ES 1	I felt like I was in another world.
	ES 2	I got away from it all.
	ES 3	I got so involved that I forgot everything else.
Attitudinal Stewardship	ATTI_ST 1	I now have a greater appreciation of the resources the park offers.
	ATTI_ST 2	I feel more connected to the park.
	ATTI_ST 3	I have more respect for the work of the park employees.
Behavioral Intentions	BEHA_ST 1	I am more likely to donate to the park.
	BEHA_ST 2	I am more willing to volunteer in this park.
	BEHA_ST 3	I feel more inclined to visit this park on a regular basis.

Table 3
Descriptive Statistics and Intercorrelations for the Constructs

	Social Presence	Mindfulness	Learning	Enjoyment	Escaping	Attitudinal Stewardship	Behavioral Stewardship	Mean	Standard Deviation
Social Presence	1.00							3.95	
Mindfulness	0.40 *(6.19)**	1.00						3.92	
Learning	0.31 *(5.52)*	0.42 *(5.25)*	1.00					4.50	
Enjoyment	0.66 *(6.67)*	0.44 *(6.75)*	0.29 *(4.81)*	1.00				4.17	
Escaping	0.56 *(5.59)*	0.34 *(5.93)*	0.46 *(6.67)*	0.49 *(7.13)*	1.00			3.01	
Attitudinal Stewardship	0.64 *(6.31)*	0.39 *(624)*	0.51 *(7.14)*	0.53 *(7.30)*	0.44 *(6.61)*	1.00		4.27	
Behavioral Stewardship	0.52 *(5.73)*	0.23 *(4.46)*	0.20 *(3.56)*	0.31 *(522)*	0.32 *(5.53)*	0.33 *(5.45)*	1.00	3.55	

**t-value: if t > 3.291, significant at p<0.001.*

Table 4
Results of Measurement Model

Construct/Item	Loadings	t-Value [a]	Mean	R^2	Composite Reliability	AVE
Social Presence			3.95	0.57	0.87	0.68
SP1	0.76	- [b]	3.90			
SP2	0.90	13.14	3.58			
SP3	0.81	12.12	3.64			
Mindfulness			3.92	0.66	0.76	0.51
MF1	0.81	- [b]	3.97			
MF2	0.67	9.73	3.75			
MF3	0.65	8.01	4.03			
Learning Experience			4.50	0.83	0.92	0.80
LE1	0.91	- [b]	4.51			
LE2	0.93	21.45	4.60			
LE3	0.85	17.89	4.40			
Enjoyment Experience			4.17	0.75	0.86	0.67
EN1	0.81	- [b]	4.05			
EN2	0.87	11.97	4.48			
EN3	0.88	15.73	3.98			
Escaping Experience			3.01	0.65	0.89	0.72
ES1	0.87	- [b]	3.11			
ES2	0.71	14.51	3.25			
ES3	0.86	14.61	2.84			
Attitudinal Stewardship			4.27	0.70	0.82	0.60
ATTI_ST 1	0.83	- [b]	4.42			
ATTI_ST 1	0.77	12.26	3.99			
ATTI_ST 1	0.72	11.19	4.42			
Behavioral Intentions			3.55	0.55	0.82	0.60
BEHA_ST 1	0.74	- [b]	3.67			
BEHA_ST 2	0.78	10.19	3.26			
BEHA_ST 2	0.80	10.31	3.73			

Note: [a]. if $t > 3.291$, significant at $p<0.001$. [b] Reference indicator. CFA loading = Completely standardized estimate. Model fit indices: $\chi^2_{(166)} = 358.29$, $p=0.000$; RMSEA = 0.07, NFI = 0.96, CFI = 0.98. All items were scored from 1 "strongly disagree" to 5 "strongly agree" except for social presence ranged from 1 "Not at all to 5 "A lot" (n=221). Composite reliability and AVE is based on Fornell and Larcker's (1981) formula.

Table 5
Parameter Estimates for Research Model

Structural Path	Hypothesis	Standardized Path Coefficients	t-value (p-value)
Information Source Composition→ Social Presence	**H1a**	**0.19**	**2.20 (0.028)**
Information Source Composition → Mindfulness	H1b	-0.14	*n.s**
Narration Style→ Social Presence	**H2a**	**0.07**	**1.55 (0.12)**
Narration Style → Mindfulness	H2b	-0.08	*n.s.*
ISC x NS→ Social Presence		-0.08	*n.s.*
ISC x NS → Mindfulness		0.05	*n.s.*
Social Presence → Learning Experience	H3a	0.07	*n.s.*
Social Presence → Enjoyment Experience	**H3b**	**0.17**	**2.35**
Social Presence → Escaping Experience	**H3c**	**0.30**	**2.72**
Mindfulness → Social Presence	**H4**	**0.71**	**6.77**
Mindfulness → Learning Experience	**H5a**	**0.56**	**4.30**
Mindfulness → Enjoyment Experience	**H5b**	**0.47**	**4.02**
Mindfulness → Escaping Experience	**H5c**	**0.38**	**3.09**
Escaping Experience → Enjoyment Experience		**0.33**	**4.39**
Learning Experience → Attitudinal Stewardship	**H6a**	**0.36**	**5.68**
Enjoyment Experience → Attitudinal Stewardship	**H6b**	**0.36**	**3.96**
Escaping Experience → Attitudinal Stewardship	**H6c**	**0.29**	**3.40**
Attitudinal Stewardship → Behavioral Intentions	**H7**	**0.56**	**6.73**

**n.s.: not significant*